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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,897	12/20/2000	Warren Sande	71493-864/jpw	4926

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EXAMINER

WARE, CICELY Q

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/739,897

Applicant(s)

SANDE ET AL.

Examiner

Cicely Ware

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,9-13 and 15 is/are allowed.
- 6) ☒ Claim(s) 1,3-8 and 14 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marrow (US Patent 5,938,790) in view of Soljanin (US Patent 6,188,337).

(1) With regard to claim 1, Marrow discloses a method of determining whether the bit disparity in a data stream is acceptable (col. 2, lines 63-67, col. 3, lines 1-8), comprising the steps of: sampling the data stream (col. 1, lines 41-42, col. 4, lines 14-16), detecting the number of samples of the data stream which have a predetermined one of two logical values within a time period (col. 4, lines 40-44, col. 5, lines 4-8), calculating the ratio of the number of samples detected which have the predetermined logical value to the number of samples considered.

However Marrow does not disclose counting a number samples of the data stream, which are being considered within the time period and comparing the calculated ratio with a predetermined acceptable threshold range.

However Soljanin discloses counting a number samples of the data stream, which are being considered within the time period and comparing the calculated ratio

with a predetermined acceptable threshold range (abstract, col. 1, lines 15-18, 33-35, 52-65).

Therefore it would have been obvious to one of ordinary skill in the art to modify Marrow to incorporate counting a number samples of the data stream, which are being considered within the time period and comparing the calculated ratio with a predetermined acceptable threshold range in order to spectrally adjust the encoded signal to suppress dc power and improve the power spectrum (Soljanin, col. 1, lines 49-50, 59).

(2) With regard to claim 14, claim 14 inherits all the limitations of claim 1. Furthermore Marrow discloses a computer-readable medium for storing computer-executable instructions which, when executed by a processor in a bit disparity monitor corresponding to a data stream (col. 2, lines 63-67, col. 3, lines 1-8).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marrow (US Patent 5,938,790) in combination with Soljanin (US Patent 6,188,337) as applied to claim 1, in view of Way et al. (US Patent 6,583,903).

(1) With regard to claim 3, inherits all the limitations of claim 1. However Marrow

does not disclose a sub-sampler for sub-sampling the data stream.

However Way et al. discloses an optical data communications link comprising a sub-sampler for sub-sampling the data stream (Fig. 1, lines 4, lines 50-63, col. 5, lines 13-16, 24-26).

Therefore it would have been obvious to one of ordinary skill in the art to modify Marrow to incorporate a sub-sampler for sub-sampling the data stream in order make the receiver more robust as possible towards noise, pulse dispersion and timing jitter (Way et al., col. 6, lines 4-6).

(2) With regard to claim 4, claim 4 inherits all the limitations of claim 3. Marrow further discloses a bit disparity monitor in which the detector identifies samples having a value of logical one (Fig. 3(69), Fig. 4, col. 5, lines 50-53).

(3) With regard to claim 5, claim 5 inherits all the limitations of claim 3. Way et al. further discloses in (Fig. 1) the sub-sampler sampling at the clock edge.

(4) With regard to claim 6, claim 6 inherits all the limitations of claim 3. Marrow further discloses a transmitter for transmitting a data stream along a communication link, comprising the bit disparity monitor (Fig. 3(69), col. 1, line 7).

(5) With regard to claim 7, claim 7 inherits all the limitations of claim 3. Marrow further discloses a node for connection with a communications link along which the node may transmit a data stream, comprising the bit disparity monitor (Fig. 1, Fig. 3(17,69), Fig. 4, col. 2, lines 63-67, col. 3, lines 1-8, col. 5, lines 50-53).

(6) With regard to claim 8, claim 8 inherits all the limitations of claim 3. Marrow further discloses a communications network comprising nodes interconnected by

communications links along which data streams are transmitted and received, comprising the bit disparity monitor (Fig. 3 (17, 69), Fig. 4, col. 2, lines 63-67, col. 3, lines 1-8, col. 5, lines 50-53).

Allowable Subject Matter

5. Claims 2, 9-13 and 15 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a method of determining whether the bit disparity in a data stream is acceptable. Prior art references show similar methods but fail to teach a 1'counter coupled to the sub-sampler, a 1's counter coupled to the 1's detector, detecting the number of samples of the inverted data stream and a second sub-sampler for sub-sampling the inverted data stream along with the remaining limitations of the independent claims.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 703-305-8326. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
July 7, 2004



STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600